

United States Government

Department of Energy

# Memorandum

DATE: APR 15 2004

REPLY TO  
ATTN OF: EM-24 (Jane Talarico, 301 903-7131)

SUBJECT: Idaho National Engineering and Environmental Laboratory Comprehensive  
Environmental Response, Compensation, and Liability Act Disposal Facility Landfill –  
Review of the Revised Compliance Demonstration Document, Composite Analysis and  
Performance Assessment

TO: Elizabeth D. Sellers, Manager, Idaho Operations Office

The Low-Level Waste Disposal Facility Federal Review Group (LFRG) has reviewed the information submitted in response to the conditions in the July 1, 2003, memorandum granting disposal approval for the ICDF Landfill (see attachment). The LFRG has concluded that all four conditions in the July 1, 2003, memorandum have been met. If you have any questions regarding this memorandum or the process for working with the LFRG, contact Mr. Dae Y. Chung, Acting Director, Office of Licensing, (301) 903-3968.



Eugene C. Schmitt  
Deputy Assistant Secretary for  
Environmental Cleanup and Acceleration  
Office of Environmental Management

Attachment

**Low-Level Waste Disposal Facility Federal Review Group (LFRG) Review of the Compliance Document, Performance Assessment (PA) and Composite Analysis (CA) for the Idaho National Engineering and Environmental Laboratory (INEEL) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Disposal Facility (ICDF) Landfill**

The LFRG reviewed the following documents:

- *INEEL CERCLA Disposal Facility Complex Compliance Demonstration for the Department of Energy (DOE) Order 435.1*, DOE/ID-10956, Revision 0, August 2003,
- *Composite Analysis for the INEEL CERCLA Disposal Facility Landfill*, DOE/ID-10979, Revision 0, 2003,
- *Performance Assessment for the INEEL CERCLA Disposal Facility Landfill*, DOE/ID-10978, Revision 0, 2003, and
- Memorandum from Kathleen Hain, DOE-ID to Jane Talarico, DOE, EM-43, concerning *LFRG Review Team Report on ICDF PA and CA B* (EM-ER-04-012) dated January 28, 2004.

These documents were submitted to the LFRG in response to the conditions in the July 1, 2003, memorandum granting disposal approval for the ICDF landfill. The LFRG's recommendation with regard to each of the original conditions in the July 1, 2003, memorandum is identified below.

**Condition 1**

*Submit a revised PA providing information that demonstrates the long-term protectiveness for the ICDF cover system.*

**Condition 1 LFRG Recommendation:**

The PA includes a lengthy discussion and analysis of cover system performance. See Sections 1.6.1, 1.6.2, 2.2, 3.2, 3.3, 3.4, 3.5, 4.2, 4.3, 4.4, 4.5, 4.6, Appendix A, and Appendix B of the PA. This condition has been met.

**Condition 2**

*Submit a revised PA to include justifications for all assumptions; all assumptions and input parameters should have a reference where they are derived from or the justification for the use of the value.*

**Condition 2 LFRG Recommendation:**

The Performance Assessment includes justifications for assumptions. See, for example, Sections 1.6, 2.2, 2.3, 2.4, 3.2, 3.3, 3.4, 3.5, 4.6, 5.2, 5.3, 5.4, and 5.5; Appendix A and B; and Tables 2-6, 3-1, 3-2, 3-8, 3-9, 3-10, 4-7, 5-2, and 5-3 of the Performance Assessment. This condition has been met.

**Condition 3**

*Revise the Composite Analysis to include a scheme for monitoring groundwater for technetium-99 and carbon-14. Add tables to the revised Composite analysis listing the wells sampled along with the concentrations for both technetium-99 and carbon-14.*

**Condition 3 LFRG Recommendation:**

See Tables 2-7, 2-8, 2-9, 2-10, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, and 2-18 in the Composite Analysis. For both technetium-99 and carbon-14, the entries in these tables are frequently "Not Sampled and Reported." For technetium-99, Table 2-10 provides a summary of technetium-99 concentrations in the vicinity and down gradient of INTEC.

The requested data for carbon-14 in groundwater apparently does not exist, and consequently, is not presented. A commitment to continue the "routine subsurface monitoring of contaminants of concern and indicator contaminants" is made in the first bullet of section 6, "Future Work." Idaho Operations Office submitted a memorandum dated January 28, 2004 describing the groundwater-monitoring program for INEEL CERCLA Waste Area Group 3, INTEC. There has been a recent detection of technetium above expected levels in a well up gradient of the INTEC high-level waste tank farm. Idaho Operations Office will continue to monitor groundwater for technetium-99 and for carbon-14 in the ICDF Landfill vicinity. The monitoring plan submitted was adequate for closing this issue. This condition has been met.

**Condition 4**

*Revise the Composite analysis to include justifications for assumptions and input parameters.*

**Condition 4 LFRG Recommendation:**

The Composite Analysis includes justifications for assumptions. See, for example, Sections 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, and 4.5 in the Composite Analysis. This condition has been met.